

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Priority Application Serial No. .... 09/541,413  
Priority Filing Date ..... March 31, 2000  
Inventor ..... Neal Margulis  
Priority Group Art Unit ..... 2671  
Priority Examiner ..... Ulka J. Chauhan  
Attorney's Docket No. ..... MA74-012  
Title: Computer System Controller Having Internal Memory and External  
Memory Control

**RESPONSE TO MARCH 20, 2002 FINAL OFFICE ACTION**  
**PRELIMINARY AMENDMENT TO ACCOMPANY**  
**CONTINUATION APPLICATION FILING**

To: Box Patent Application  
Assistant Commissioner for Patents  
Washington, D.C. 20231

From: Frederick M. Fliegel, Ph.D.  
(Tel. 509-624-4276; Fax 509-838-3424)  
Wells St. John P.S.  
601 West First Avenue, Suite 1300  
Spokane, WA 99201-3828

This is a preliminary amendment accompanying a Request for Continuation Application for the above-entitled patent application. Prior to examining the application, please enter the following amendments.

**AMENDMENTS**



1004-251 11 12 13

36. The computer system of claim 34 wherein one of the at least one internal memory subsystem and the at least one external memory subsystem is a display memory subsystem configured to be able to function as main system memory.

37. The computer system of claim 34 wherein at least one of the at least one internal memory subsystem and the at least one external memory subsystem includes a data manipulator containing a plurality of data storage elements.

38. The computer system of claim 34 further comprising a complete drawing buffer configured to permit a graphics engine to store display output data and transfer the display output data for subsequent display updates.

39. The computer system of claim 34 further comprising a computer display, a complete drawing buffer and a graphics engine, wherein the graphics engine is configured to be able to store output data in the drawing buffer for output to the computer display and to subsequently transfer the output data to the computer display for display updates.



provide output signals to the memory channel data switch and the memory controller;

an arbitration and control engine operably coupled to the CPU subsystem controller, the graphics/drawing and display subsystem, the arbitration and control engine being configured to provide output signals to the CPU subsystem controller and to the graphics/drawing and display subsystem; and

a peripheral bus controller operably coupled to the memory channel data switch, the memory controller and the arbitration and control engine and configured to provide output signals to the memory channel data switch, the memory controller and the arbitration and control engine.

41. The computer system of claim 40 wherein at least one of the at least one internal memory subsystem and the at least one external memory subsystem includes DRAM memory.

42. The computer system of claim 40 wherein at least one of the at least one internal memory subsystem and the at least one external memory subsystem comprises a data manipulator containing a plurality of storage elements.



**REMARKS**

Claims 1-33 have been canceled and claims 34-43 have been added. Claims 34-43 remain in the application. Consideration of the application as amended is requested. .


New claims 34-43 are supported at least by text appearing at p. 7, line 11 through p. 24, line 18 of the application as originally filed. No new matter is added by new claims 34-43. New claims 34-43 distinguish over the art of record and are allowable.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page(s) are captioned "**Version with markings to show changes made.**"

In view of the foregoing, allowance of claims 34-43 is requested. The Examiner is requested to phone the undersigned in the event that the next Office Action is one other than a Notice of Allowance. The undersigned is available for telephone consultation at any time during normal business hours (Pacific Time Zone).

Respectfully submitted,

Dated: Nov 15, 2002 By:

  
\_\_\_\_\_  
Frederick M. Fliegel, Ph.D.  
Reg. No. 36,138



**Version with markings to show changes made****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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       Memory Control

**VERSION WITH MARKINGS TO SHOW CHANGES MADE TO ACCOMPANY  
 PRELIMINARY AMENDMENT**

Deletions are bracketed, additions are underlined.

**In the Specification**

The paragraph on page 1, immediately following the heading "RELATED APPLICATIONS" has been replaced with the following paragraph:

This patent application is a continuation application of U.S. Patent  
Application Serial No. 09/541,413, filed on March 31, 2000, entitled  
"Computer System Controller Having Internal Memory and External Memory  
Control," naming Neal Margulis as inventor, which is a continuation  
application of U.S. Patent Application Serial No. 08/926,666, filed on  
September 9, 1997, now U.S. Patent No. 6,118,462, which resulted from a  
continuation-in-part application of U.S. Patent Application Serial No.  
08/886,237, filed on July 1, 1997, entitled "Computer System Having a  
Common Display Memory and Main Memory," naming Neal Margulis as

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inventor, now U.S. Patent No. 6,057,862, the disclosures of which are  
incorporated by reference.

**In the Claims**

Claims 1-33 have been canceled without prejudice and claims 34-43  
have been added.

Because the amendments to the claims merely cancel some claims and  
add others, no marked-up copies of claim amendments are required or  
provided.

**END OF DOCUMENT**

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Priority Examiner .... Ulka J. Chauhan  
Attorney's Docket No. .... MA74-012  
TITLE: Computer System Controller Having Internal Memory and External Memory Control

Assistant Commissioner for Patents  
 Washington, D. C. 20231  
 Attention: Official Draftsman

**SUBSTITUTE DRAWING REQUEST**

Please enter the enclosed substitute formal drawings in the above-referenced application in place of drawings originally filed. The content of the drawings are identical to those now on file in this application.


Acknowledgment of receipt of the formal drawings and their acceptance into the file is requested.

Respectfully submitted,

Date:

NOV. 20, 2002

By:

  
 Frederick M. Fliegel, Ph.D.  
 Reg. No.: 36,138  
 WELLS ST. JOHN P.S.  
 601 W. First Avenue, Suite 1300  
 Spokane, WA 99201-3828  
 (509) 624-4276

Enclosures: 12 Sheets of Formal Drawings, Figs. 1-12.

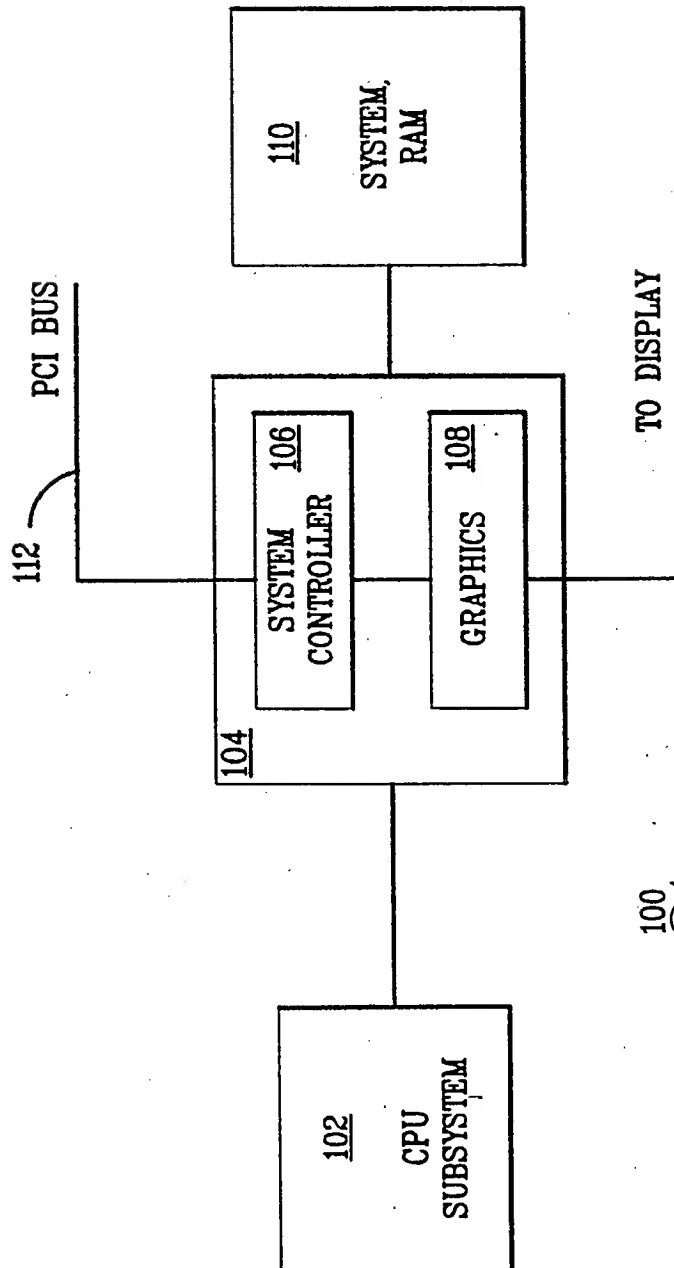


FIG. 1  
Prior Art

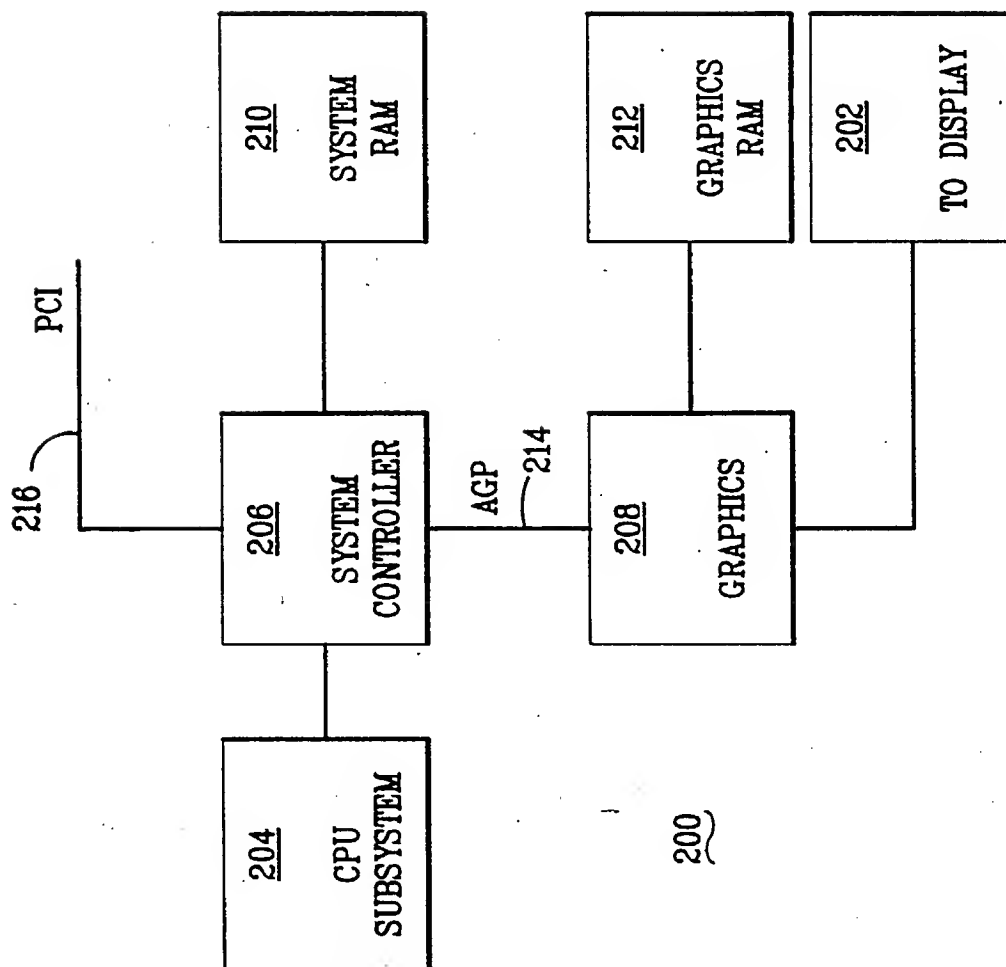


FIG. 2  
Prior Art

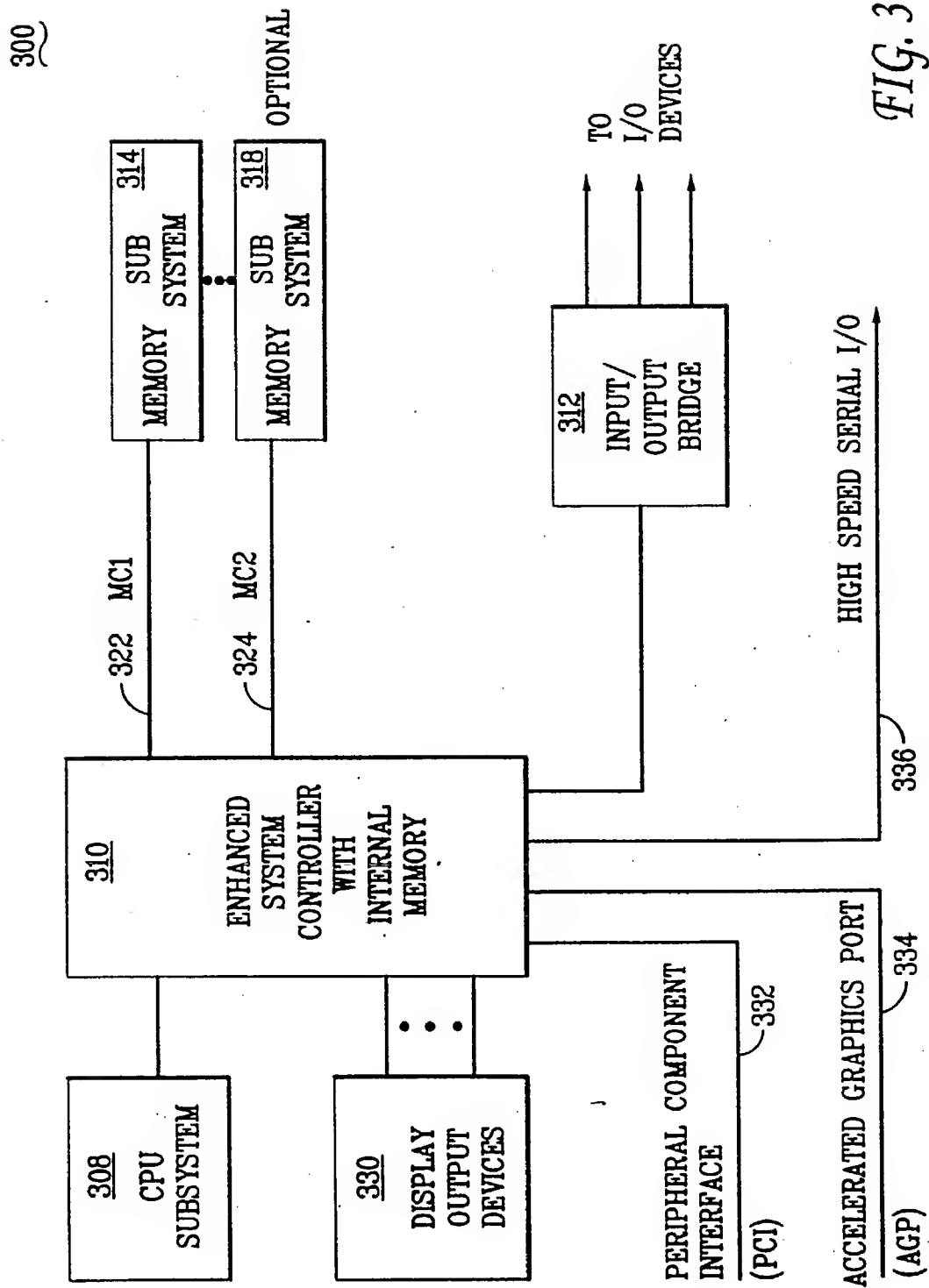


FIG. 3

4/12

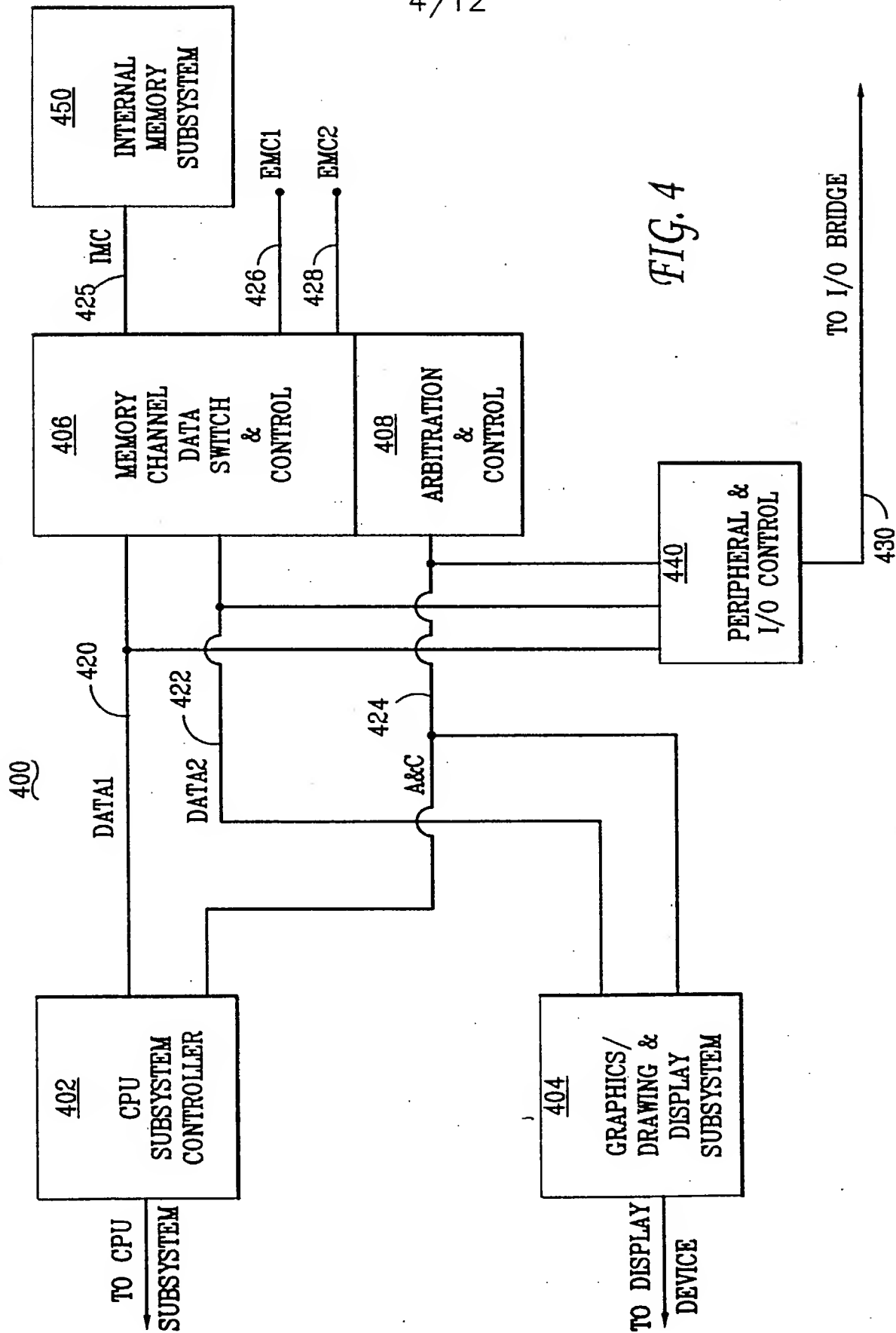


FIG. 4

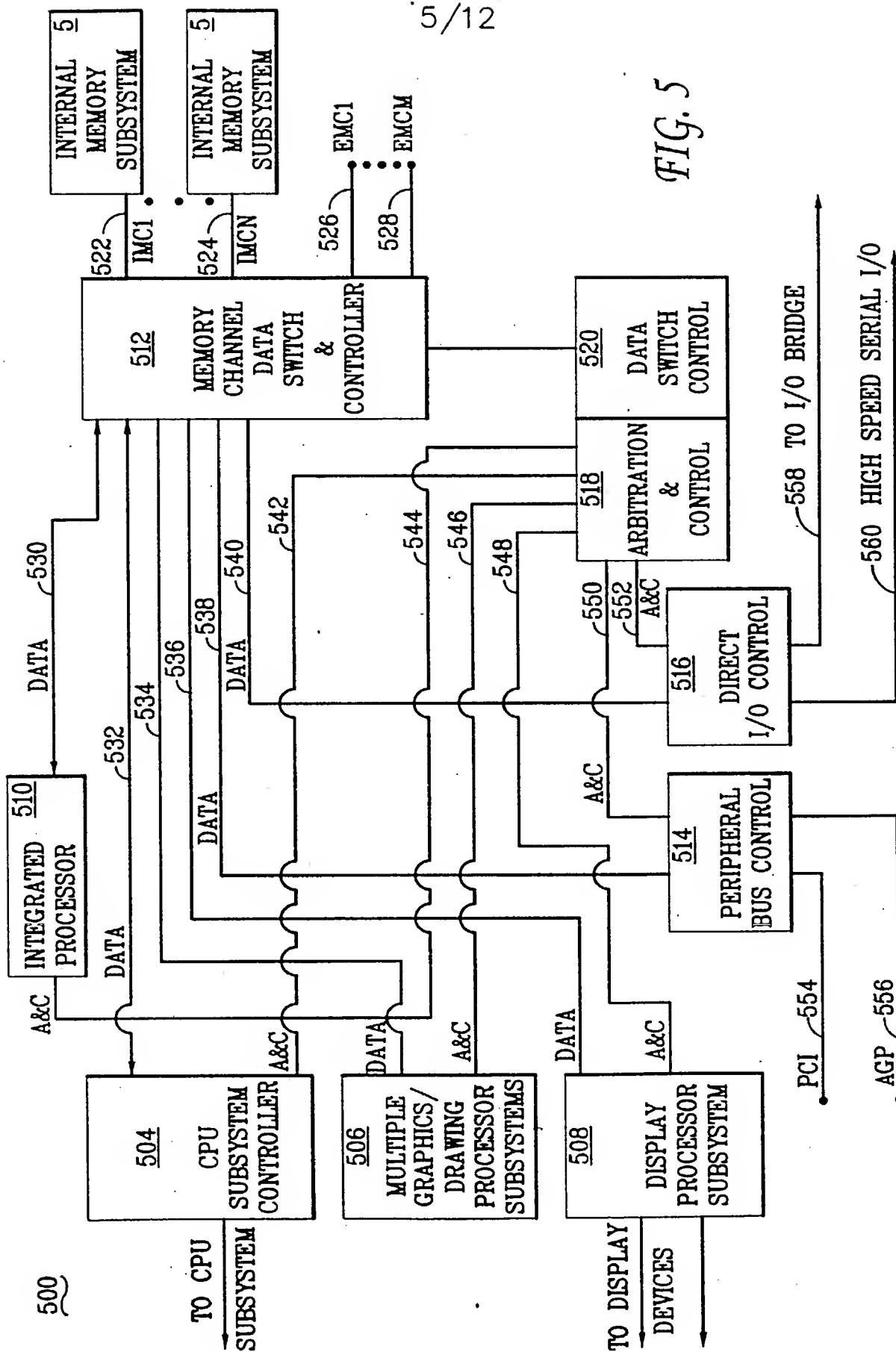


FIG. 5



600

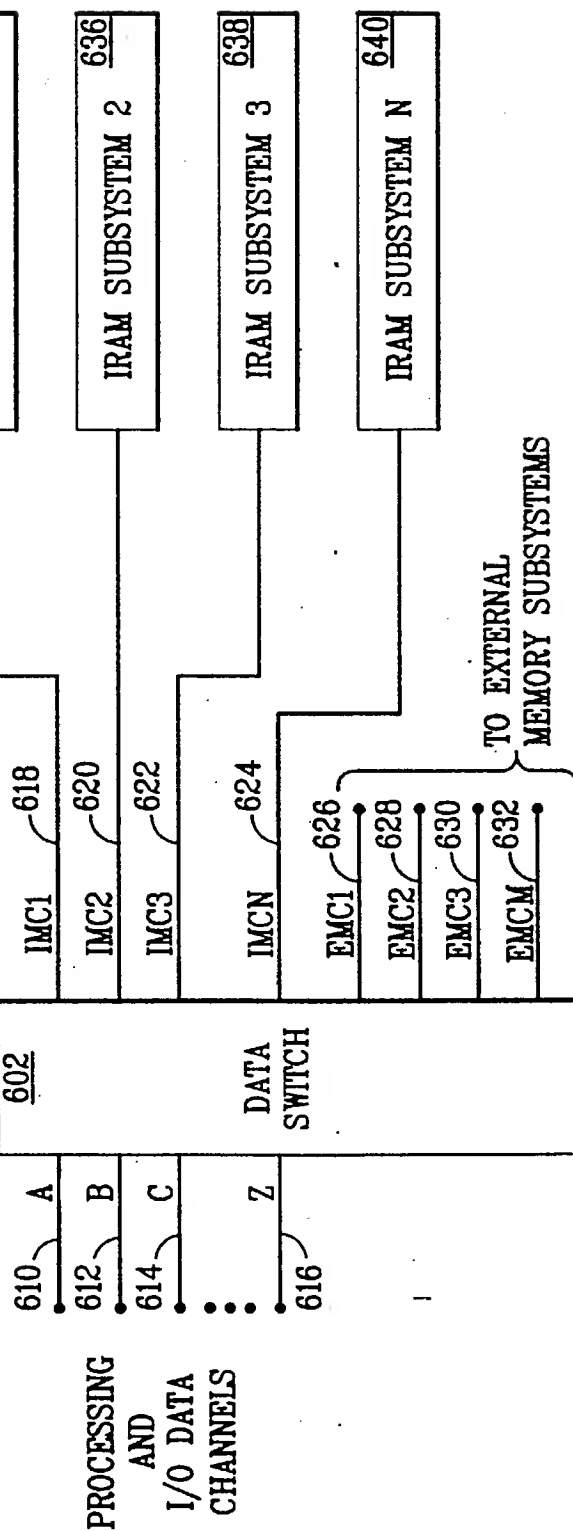


FIG. 6

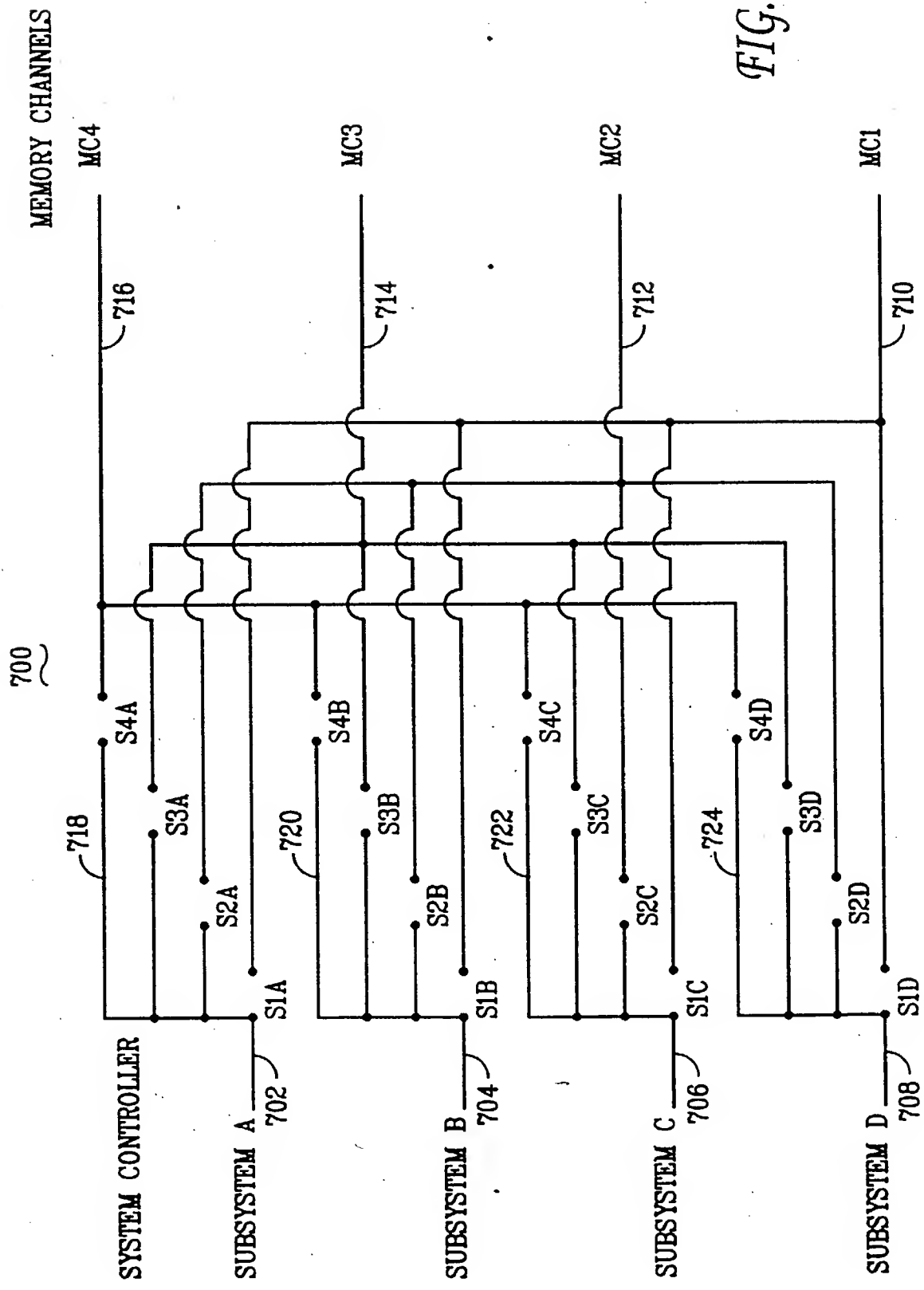


FIG. 7

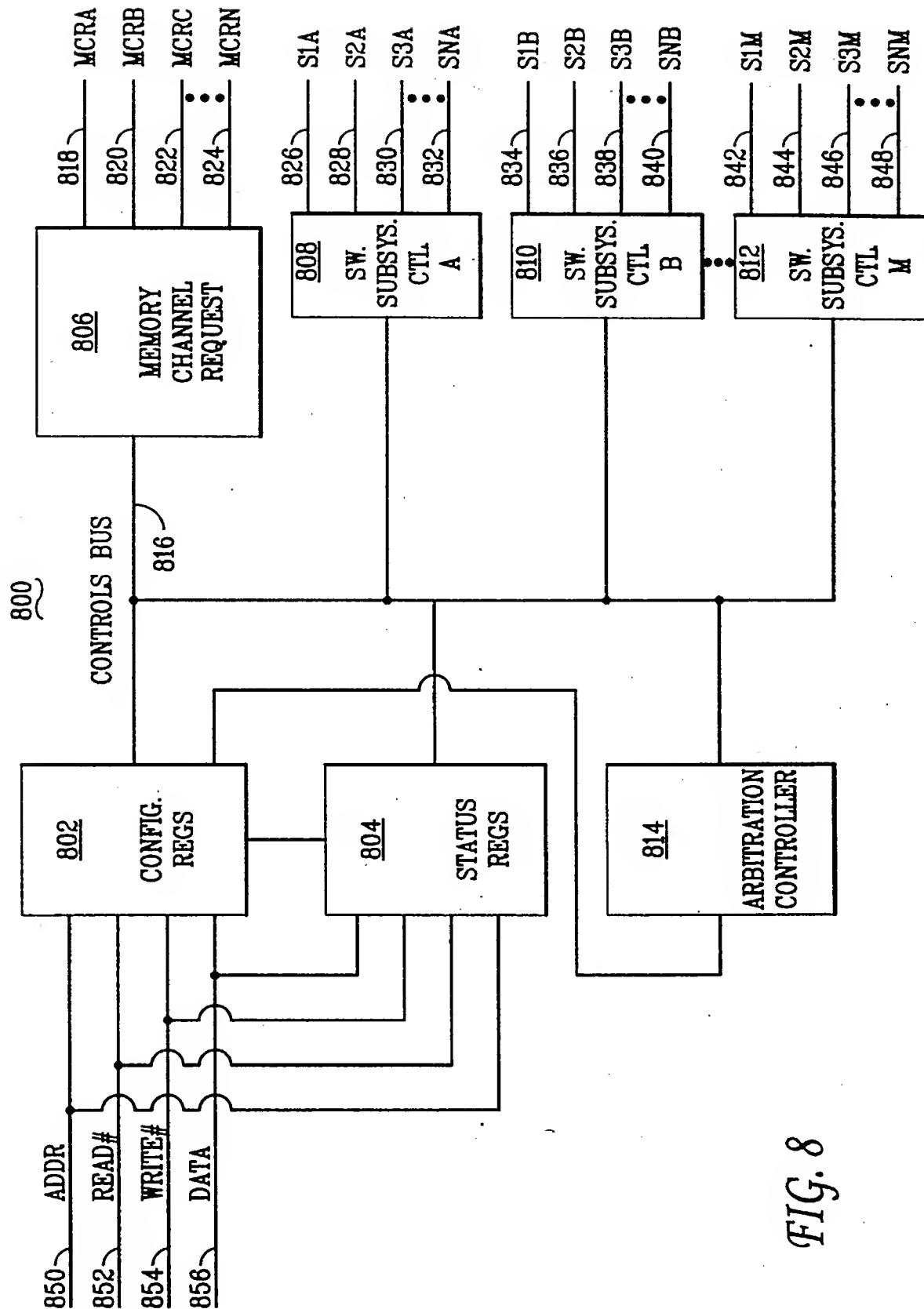


FIG. 8

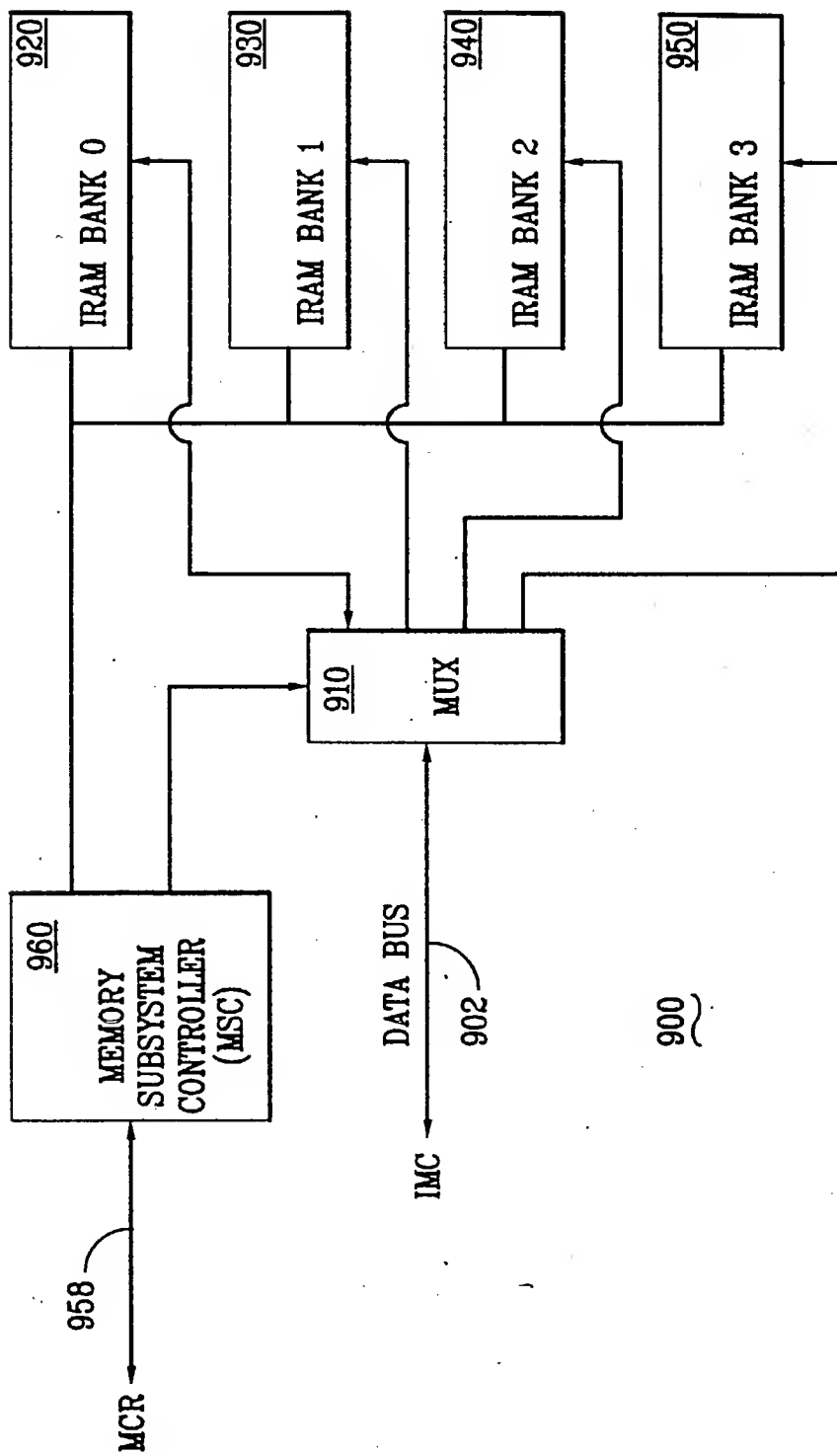


FIG. 9

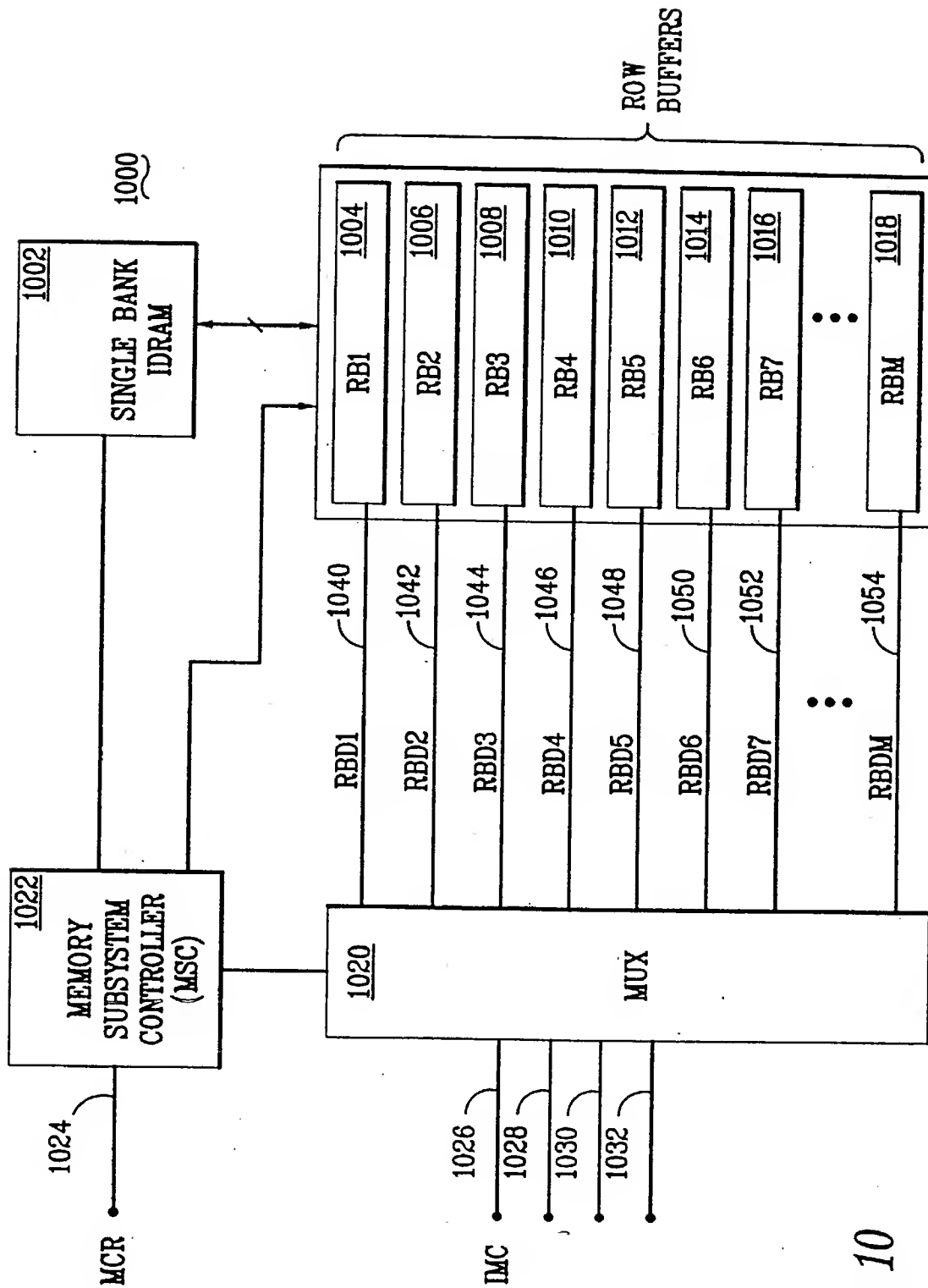


FIG. 10

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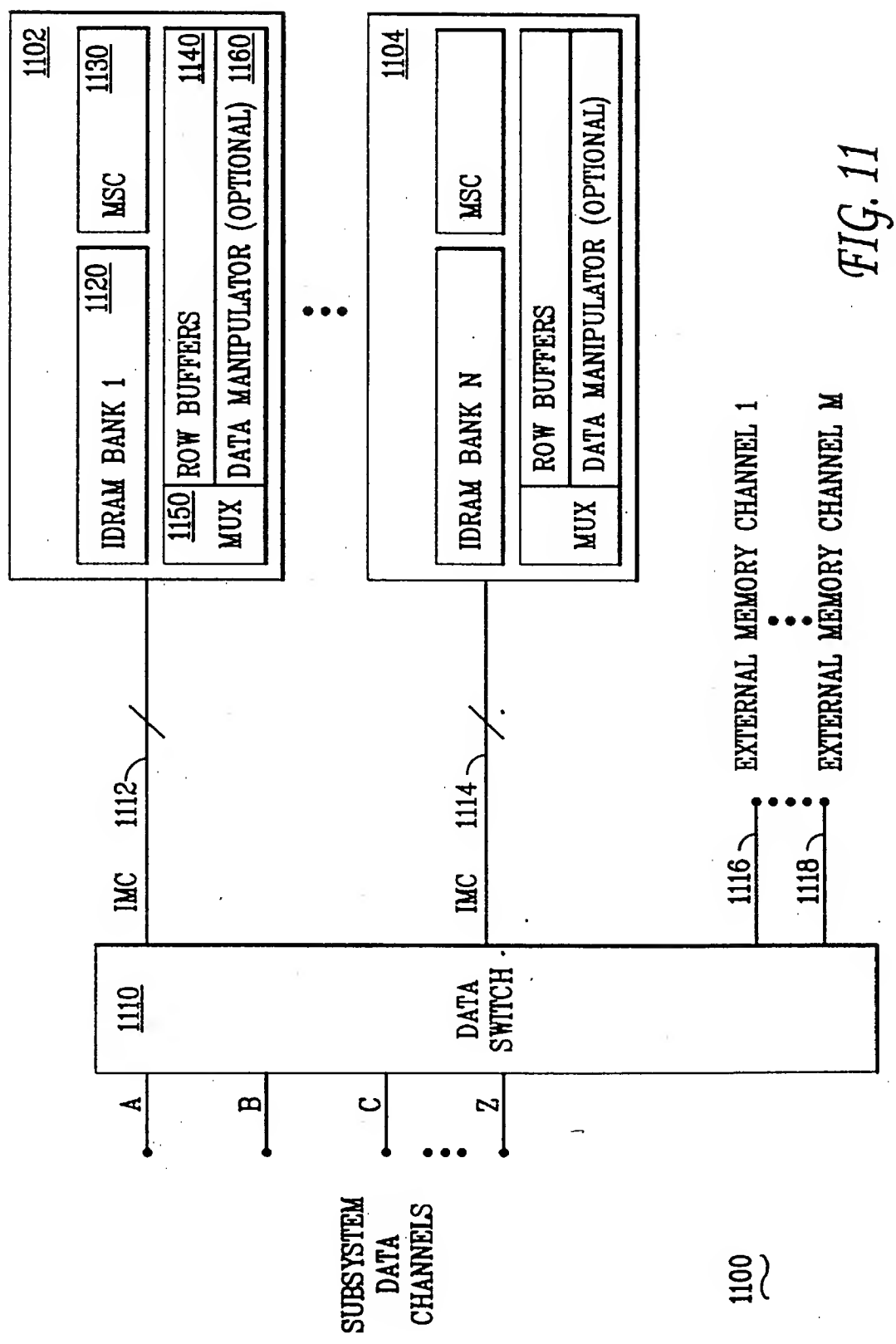


FIG. 11

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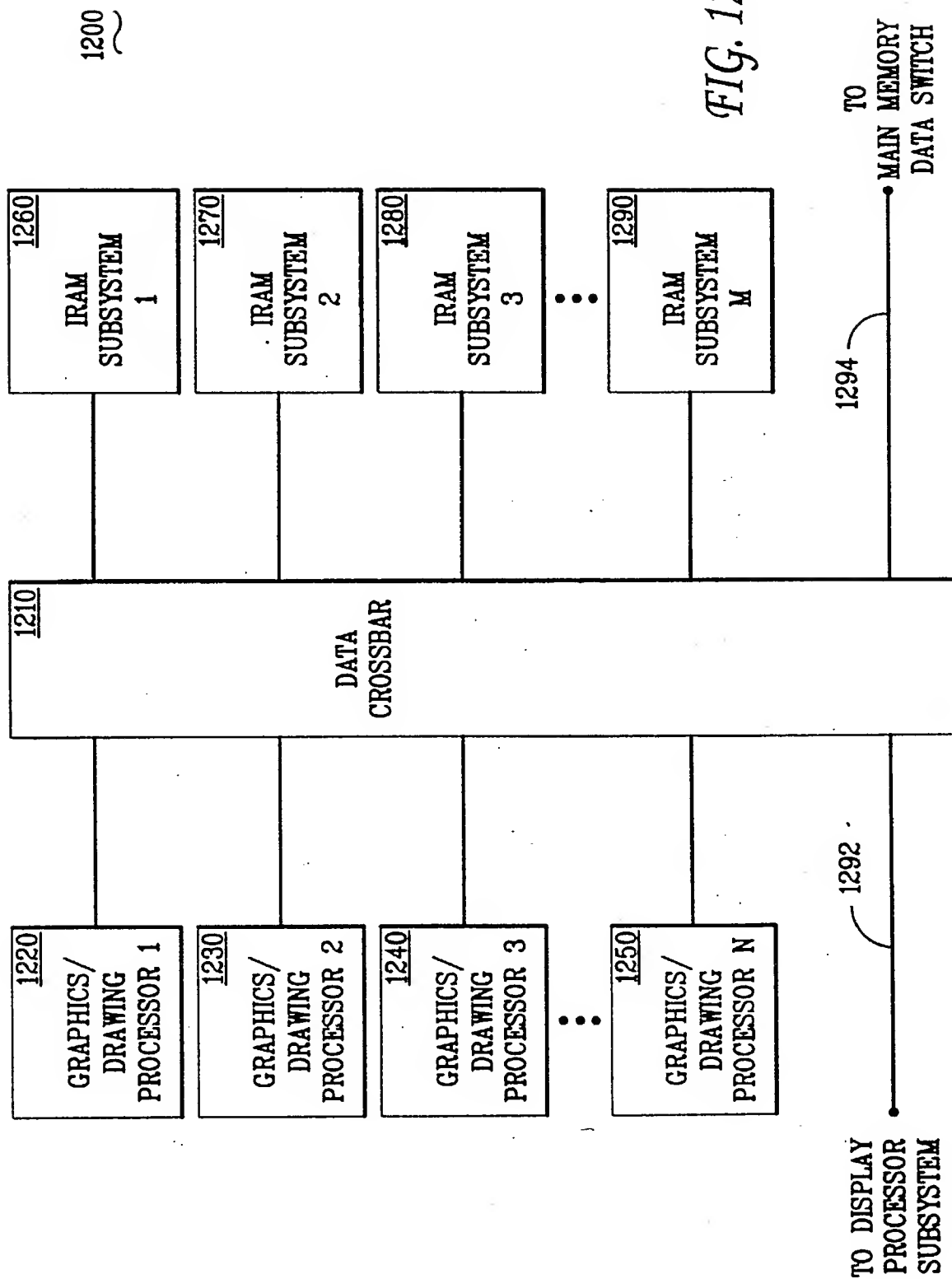


FIG. 12